REMARKS/ARGUMENTS

Status of Claims

Claims 1-21 remain in the application. New claim 22 has been added.

Amendments to Claims

Claim 1 is amended to provide a more detailed recitation of the components of the Update message. Support for these amendments can be found at page 9, line 8 to page 10, line 31. Also in claim 1, the expression "the BGP Speaker transmitting an Update message" has been replaced with "the BGP Speaker operable to: transmit an Update message"

Claims 10-18 are amended to recast the claims as method claims. Claim 10 has also incorporated the more detailed recitation of the components of the Update message incorporated into claim 1.

Claim 19 is amended to provide a more detailed recitation of the components of the Update message in the same manner as claim 1. In amended claim 19, the expression "the VR receiving an Update message" has been replaced with "the VR operable to: receive an Update message". Claim 20 has been amended for consistency with the newly added subject matter of amended claim 19.

New claim 22 recites "the Update message is for use by BGP speakers receiving the Update message to update routing tables consistent with information included in the Update message; and the BGP speaker operable to receive Update messages from other BGP speakers having said VPN Membership information, VPN Reachability Mode field, VPN Reachability information and Tunnel Mechanism information, and updating routing tables accordingly". Support for this subject matter is located at page 7 lines 3-6, page 7 lines 26-30 and page 8 lines 9-11.

35 U.S.C 101 Rejections

On page 2 of the Final Office Action, in response to Applicant's argument submitted in the Office Action response of June 21, 2006, the Examiner has maintained the rejection of claims 10-18 under 35 U.S.C. 101. The Examiner asserts that "the claims are still deemed to be non-functional descriptive material as the fields as claimed do not perform any specific data manipulation, and is just delineating the format of the message".

Claims 10-18 have been recast as method claims. Applicant submits that claims 10-18 are statutory subject matter in the form of method claims directed to steps performed in transmitting an Update message.

The Examiner has also maintained the rejection of claim 1. The Examiner states that claim 1 delineates a BGP speaker sending an Update message with various data fields and further alleges that the "data fields are defined by nomenclature only, and the claim does not specify what functionality is being imparted, and the claim does not state that the update message is received by a device which interprets the fields and performs a specific function."

In Section 2106 of the Manual of Patent Examining Procedure (MPEP), in particular Part IV B (1), *In re Sarkar*, 588 F.2d 1330,1333, 200USPQ 132,137 (CCPA 1978) is quoted as stating "In the final analysis under 101, the claimed invention, as a whole, must be evaluated for what it is". Amended claim 1 is directed to a BGP speaker operable to transmit an Update message having various data fields not disclosed by Rekhter, as conceded by the Examiner on page 5 of the Office Action and not the Update message per se. Amended claim 1 specifies the functionality being imparted by the various fields recited in the claim. The claim, when viewed as a whole recites a BGP speaker that is operable to transmit a message having various fields, the contents of the fields detailing aspects of how data is to be forwarded in the network, for example indicating a type of VPN model being used by the at least one VPN, indicating at least one route by which the at least one VPN can be reached and indicating characteristics of a tunnel used to transport VPN packets across a backbone of the network.

The Update message is recited to be "in conformance with a Border Gateway Protocol". Applicant submits that one skilled in the art would be familiar with the fact that information

transmitted in an Update message "in conformance with a Border Gateway Protocol" is used by other network elements in routing data in the network. As such Applicant submits that it is not necessary to recite that the Update message is received by a given device and recite how the given device performs a specific function.

In a telephone conversation with the Examiner on December 15, 2006, the Examiner indicated to the Applicant's representative that the amendments to claims 1 and 10-18 discussed above, in combination with the additional subject matter now claimed in claim 22 that was to be added to claim 1 should overcome the 35 U.S.C. 101 rejection. Upon further reflection, Applicant has elected not to include the additional subject matter of claim 22 in claim 1 at this time in view of the additional arguments presented above.

35 U.S.C 103 Claim Rejections

The requirements for establishing a *prima facie* case of obviousness as set out in the MPEP Section 2143.01 require that references when combined teach all of the claimed limitations, that there be a reasonable expectation of success in realizing the claimed invention, and that there be a motivation to combine the references.

The Examiner has maintained the rejection of claims 1-21 under 35 U.S.C. 103(a) as being unpatentable over Rekhter (U.S. Patent No. 6,526,056).

The Examiner alleges that Rekhter discloses many of the features recited in claim 1, except that Rekhter does not explicitly disclose that the updated message further comprises a VPN Reachability mode field and Tunnel Mechanism information. The Examiner states that "these differences are only found in non-functional descriptive material and are not functionally involved in the steps recited" and further states that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit an update message containing any type of data fields, because defining such data fields does not functionally relate to the steps in the method claimed". Applicant reiterates to the Examiner that claim 1 is a device claim directed to a Border Gateway Protocol Speaker, not a method claim and that there are no steps per se recited in the claim.

Amended claim 1 recites "a VPN Reachability Mode field that indicates a type of model being used by the at least one VPN". Rekhter does not disclose multiple VPN models and that a given VPN model being utilized by a VPN is to be identified in the Update message. Examples of different models that may be used for a VPN in embodiments of the present invention are described at page 3, lines 20-27, and include a Virtual Router (VR) model and a piggyback model.

Amended claim 1 further recites "Tunnel Mechanism information that indicates characteristics of a tunnel used to transport VPN packets across the backbone". As can be found in the description of the present application at page 10, lines 4-22, "a tunnel allows opaque transport of VPN packets across the backbone, such that packet forwarding within the backbone is independent of VPN address fields within the packet". An example of what is Tunnel Mechanism information is "a Length of VPN Tunnel Entries field 135 and zero or more VPN Tunnel Entry fields 140. Each VPN Tunnel Entry field has a format as shown in FIG. 3C, and includes a Tunnel Type field 165, a Length field 170, and a Tunnel Value field 175. The Tunnel Type field 165 indicates a type of tunnelling mechanism, and is two octets in length. The Length field 170 indicates a length of the Tunnel Value field in bits, and is one octet in length. The Tunnel Value field 175 carries information related to an endpoint of the tunnel, and has a variable length. The Tunnel Value field 175 can carry, for example, address information, Quality of Service information, and tunnel mechanism parameters". Rekhter makes no suggestion or disclosure of including such information in an Update message, as conceded by the Examiner.

The Examiner states that "transmitting the update message would have been performed regardless of the different fields" recited in claim 1. As the contents of the Update message, specifically the VPN Reachability Mode field and the Tunnel Mechanism information affect how VPN packets are routed in the network, Applicant submits that the contents of the Update message enables a new and different way of configuring a VPN network than disclosed in Rekhter.

Applicant submits that Rekhter does not disclose all the features recited in amended claim 1, in particular the VPN Reachability mode field and Tunnel Mechanism information in the update message transmitted by the Border Gateway Protocol Speaker, as conceded by the

Examiner. The Examiner has failed to satisfy the first criterion for establishing a *prima facie* case of obviousness, namely that the reference teach all of the claimed limitations.

For at least these reasons, Applicant submits that amended claim 1 patentably distinguishes over the subject matter disclosed by Rekhter. Applicant respectfully requests that for at least the above reasons the Examiner reconsider and withdraw the 35 U.S.C 103 claim rejection to claim 1.

Claims 2-9 are dependent either directly or indirectly on claim 1. The Examiner uses the same reasoning that "it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit an update message containing any type of data fields, because defining such data fields does not functionally relate to the steps in the method claimed" in objecting to claims 2-9, while at the same time conceding that Rekhter does not disclose particular features recited in each respective claim. Claims 2-9 are allowable for at least the same reasons as claim 1 discussed above, as well as the fact that Rekhter does not disclose all the limitations of the respective dependent claims, as conceded by the Examiner.

The Examiner states that claims 10-18 are directed to a "data format" analogous to the BGP Speaker claims 1-9 and are rejected for the same reasons. Amended independent claim 10 is now directed to "a method for transmitting an Update message embodied in a transmission medium" and recites similar subject matter to independent claim 1. Applicant submits that claim 10 is allowable for at least the same reasons discussed above with regard to claim 1.

Claims 11-18 are dependent upon claim 10 and are allowable for at least the same reasons as claim 10 that are discussed above, as well as the fact that Rekhter does not disclose all the limitations of the respective dependent claims, as conceded by the Examiner in the rejection of similar subject matter in device claims 1-9.

The Examiner alleges that Rekhter discloses all the limitations of claim 19, except that the Update message further includes information relating to networking systems used by the NB-VPN to which the VR (virtual router) belongs.

The Examiner equates "the VR including instructions for establishing an OSI layer-2

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connection to at least one other VR in the communication system" with the disclosure in Rekhter at column 3, lines 53-63. At column 3, lines 53-63, Rekhter discusses access control as a multiple-customer problem in VPNs. It is stated that when an enterprise buys network-backbone service from an Internet SP (service provider) it wants assurance that its network only receives packets that originated in its own network and packets on its network do not leave the network. Rekhter discloses that a virtual router is useful in solving these problems, but does not disclose any physical implementation of how a virtual router solves the problem. Applicant submits that Rekhter does not specifically disclose a VR establishing a OSI layer-2 network layer connection as recited in claim 19.

Furthermore, in the Summary of the Invention at col. 3 line 65 to col. 4 line 43, Rekhter teaches that the approach disclosed in the patent provides "the peer model's advantages at costs considerably lower than those that the conventional virtual router approach exacts". Rekhter also states "the virtual router approach introduces a problem of its own. The C-network's interior-routing algorithm is now running both in C-routers and in P-routers. This blurs the administrative boundaries. If the routing algorithm fails, two different administrations must work together to troubleshoot it. This is in direct contradiction to a lesson of nearly all networking experience: interior-routing algorithms must be confined to a single administrative domain". Rekhter does not disclose a virtual router model for implementing the subject matter described in the patent and consequently does not disclose a virtual router. On the contrary, as disclosed in the Summary of the Invention, Rekhter describes the drawbacks of using a virtual router and discloses an alternative to using a virtual router.

Amended claims 19 recites the details of contents included in the Update message received by the virtual node in a similar fashion to claim 1. For at least the same reasons having regard to claim 1 and because Rekhter does not recite all the limitations of claim 19 as discussed above, Applicant submits that the Examiner has failed to satisfy at least one criterion for establishing a *prima facie* case of obviousness, namely that the reference teach all of the claimed limitations.

As Rekhter does not disclose a virtual router and in fact recites the disadvantages associated with using a virtual router, Applicant submits that Rekhter teaches away from using a

virtual router. Applicant further submits that as Rekhter teaches away from the use of a virtual router, one skilled in the art would not look to the disclosure of Rekhter when proposing to use a virtual router for receiving "an Update message being in conformance with a Border Gateway Protocol" as recited in claim 19.

For at least the above reasons, Application submits that the Examiner has failed to establishing a *prima facie* case of obviousness. Therefore, claim 19 patentably distinguishes over the cited reference.
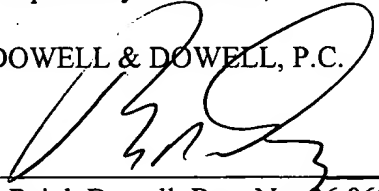
Claims 20 and 21 are dependent upon claim 19 and are allowable for at least the same reasons as claim 19.

Applicant respectfully requests that for at least the above reasons the Examiner reconsider and withdraw the 35 U.S.C 103 claim rejection to claims 2-21.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

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